

PATENT COOPERATION TREATY

U 016103-4

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/NL2004/000531

International filing date (day/month/year)
23.07.2004

Priority date (day/month/year)
28.07.2003

International Patent Classification (IPC) or both national classification and IPC
B29D30/30, B29D30/58, B65H23/02, B65H20/06

Applicant
VMI EPE HOLLAND B.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

nieuwe termijn demand + antwoord
duo 19-7-05

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Fregosi, A

Telephone No. +49 89 2399-7104



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

10/565174
IAP12 Rec'd PCT/PTO 19 JAN 2006
International application No.
PCT/NL2004/000531

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☒ This opinion has been established on the basis of a translation from the original language into the following language **English**, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/NL2004/000531

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☐ The International Searching Authority has not been able to consider the validity of the priority claim because a copy of the earlier application whose priority has been claimed was not available to the International Searching Authority at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/NL2004/000531

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 40,41

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 40 and 41 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the whole application or for said claims Nos.

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

☒ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/NL2004/000531

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☒ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☐ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-39

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	3,5,8-17,21-24,26,27,30-35
	No: Claims	1,2,4,6,7,18-20,25,28,29,36-39
Inventive step (IS)	Yes: Claims	8-10,13
	No: Claims	1-7,11,12,14-17,18-39
Industrial applicability (IA)	Yes: Claims	1-39
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Claims 40 and 41 do not comply with Rule 6.2 (a) PCT.

Re Item IV

Lack of unity of invention "a priori"

The separate inventions are:

Invention I: claims 1-17

A device for conveying a strip-shaped material comprising a main conveyor belt and auxiliary feed and discharge conveyor belts placed on both sides of the main conveyor belt, wherein two slit-shaped openings are provided, each slit-shaped opening being arranged between feed conveyor belt and discharge conveyor belt on each side of the main conveyor belt.

Invention II: claims 18-39

A device for conveying a tread band to a tyre building drum comprising: a measuring device, a device for applying lateral displacement and a control unit for controlling the lateral displacement of the tread, and a method of controlling lateral displacement of the tread strip during its application onto the building drum.

Reasoned statement

1. The reasons for which the present application has been considered to contain two inventions which are not linked such that they form a single general inventive concept, as required by Rule 13.1 PCT, are as follows.

2. The independent claim **1** solves the problem of avoiding stretch and undesired deformation of the unvulcanized (and thus plastic) tread strip and avoiding measuring errors, as the tread is not supported over its full length. This problem to be solved is clearly stated by the applicant in the description: see page 1, lines 17 and 18.

This problem is now defined as Problem # 1.

3. Both the independent claims **18** relating to an apparatus and **36** relating to a method, contribute to the solution of the problem of providing a more accurate positioning of the tread strip onto the building drum and avoiding manual adjustments and corrections by an operator, as clearly stated by the applicant in the description: see page 4, line 31 - page 5, line 2.

This problem is now defined as Problem # 2.

4. Independent claims **1** on one side and claims **18** and **36** on the other side have the following technical features in common: a strip conveying device comprising a feed side and a discharge side, and a method of conveying a strip from feed side to discharge side of this device.

5. These features are well known in the art of tyre manufacturing and common to almost any conveying apparatus and conveying method in the field: see for instance document US 5725703 - A.

Hence they can neither constitute the "Special Technical Features" (as defined in Rule 13.2 PCT) of claim **1** or of claims **18** and **36**, nor be the unifying concept of the application.

6. The remaining technical features of claim **1**, namely the provisions of a main conveyor belt and of auxiliary conveyor belts placed on both sides of the main conveyor belt, wherein two slit-shaped openings are provided, each slit-shaped opening being arranged between feed conveyor belt and discharge conveyor belt on each side of the main conveyor belt, evidently solve the Problem # 1 stated at point 2. above.

These features are now defined as the potential Special Technical Features # 1 (PSTF # 1).

7. The remaining technical features of claims **18** and **36**, namely:

- the provisions of a measuring device, of a device for applying lateral displacement and of

a control unit for controlling the lateral displacement of the tread for the conveying device of claim 18, and

- the provision of controlling lateral displacement of the tread strip during its application onto the building drum for the process of claim 36,

evidently solve the Problem # 2 stated at point 3. above.

These features are now defined as the potential Special Technical Features # 2 (PSTF # 2).

8. The above analysis shows that PSTF # 1 and PSTF # 2 are not the same; they also cannot be considered as "corresponding" (as defined in Rule 13.2 PCT) because the technical effect of PSTF # 1 contributing to the solution of Problem # 1 is different from the technical effect of PSTF # 2 contributing to the solution of Problem # 2.

9. Neither the objective problems underlying the subjects of the two claimed inventions, nor their solutions defined by the Special Technical Features allow for a relationship to be established between the said inventions, which involves a single general inventive concept.

10. The application therefore does not disclose a Single General Inventive Concept, as required by Rule 13.1 PCT, but two different inventive concepts. In conclusion the present application does not meet the requirements of Unity of Invention as defined in Rules 13.1 and 13.2 PCT.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents are referred to in this communication:

D1: JP 8058958 - A (figures 5 and 1, and the WPI/Derwent abstract);

D2: JP 5229032 - A (figure 1 and the PAJ/JPO abstract);

D3: US 2850277 -A;

D4: EP 844067 - A;
D5: US 4359675 - A;
D6: WO 99/42390 - A;
D7: GB 973972 - A.

INVENTION Nr. 1

2. Independent claim 1 - Lack of novelty

2.1 The document **D1** discloses (the references in parentheses applying to this document):

"a device (90) for conveying articles, from a feed side to a discharge side, comprising a main conveyor belt (92) extending from the feed side to the discharge side, and auxiliary conveyor belts (91A, 91B, 91C, 93A, 93B, 93C) on both sides of the main conveyor belt (92) and which each comprise a feed conveyor belt (91A, 93A) and a discharge conveyor belt (91B, 93B), and a slit-shaped opening between the feed conveyor belt (91A, 93A) and the discharge conveyor belt (91B, 93B), positioned for on both sides of the main conveyor belt (92) forming a slit".

See in particular figure 5 and also figure 1 and the relative passages of the abstract.

2.2 It is pointed out that the conveying device disclosed in **D1** is clearly "suitable for conveying strip-shaped materials".

Therefore, claim 1 is not new in the sense of Article 33(2) PCT.

3. Dependent claims 2-7,11,12,14-17 - Lack of novelty and / or inventive step

3.1 The features of the dependent claims **2 - 7** and **14 - 17** appear to be either disclosed or suggested in the available prior art or are simply considered as trivial design options, known in many conveying apparatuses, which a skilled person would apply without any inventive activity.

3.2 The subject-matters of dependent claims **11** and **12**, taken in combination with the subject-matter of claim **1**, consist merely of associations of known devices functioning in their normal way and not producing any non-predictable working inter-relationship: for example, the features of claim **11** are known from doc. **D2** and the features of claim **12** are known from doc. **D3**.

These claims therefore do not comply with the requirements of inventive activity in the sense of Article 33(3) PCT.

4. Dependent claims 8-10, 13

4.1 The features disclosed in claim **8**, which depends on claim **1**, are not disclosed in combination, in any of the available prior art documents.
This claim is therefore new.

4.2 The closest prior art appears to be document **D4**, which shows a strip conveying apparatus comprising two conveyor belts placed one after the other; the gap between the two conveyors is used for the operation of the strip detecting device, which includes a light source and an image recorder.

4.3 The technical contribution of claim **8** over the prior art is to solve the problem of providing a more uniform support to the strip being conveyed (since strips made of unvulcanized rubber and used in tyre manufacturing are plastic and easily deformable).

4.4 This is achieved by incorporating in the known conveying apparatuses a continuous main conveyor belt which is able to support the whole strip in its central portion and to prevent undesired deformations and measuring errors, while the lateral portions of the strip are detected by the known strip detecting devices.

4.5 Although this combination of main and auxiliary conveyor belts is known, per se, from **D1**, nevertheless, no suggestion is given in **D1** to introduce these features in the apparatus of **D4** to solve the above mentioned problem.

Claim **8** meets therefore the requirements of Art. 33 (3) PCT with respect to inventive step.

4.6 Claims 9, 10 and 13 are directly or indirectly dependent on claim 8 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

INVENTION Nr. 2

5. Independent claim 18 - Lack of novelty

5.1 The document D5 discloses (the references in parentheses applying to this document):

"an application device (10) for applying a tire component (13) on a building drum (15) for a tyre, comprising:

- a tire component conveying device (12) for conveying a tire component to a building drum, from a feed side of the tire component conveying device to a discharge side of the tire component conveying device in a conveyance direction (see figures 1 and 2),
- and a positioning device (28) for positioning the tire component on the building drum, wherein the positioning device comprises:
 - measuring means (35) at the feed side for determining the position of a segment of the tire component and generating a position value,
 - displacement means (30) for displacing the segment of the tire component with a displacement directional component parallel to the axis of rotation of the building drum (15), and
 - control means (33), connected to the measuring means (35) and the displacement means (30), for (on the basis of the position value) controlling the displacement device during the application of the segment of the tire component on the building drum".

See: col. 4, line 47 - col. 5, line 6; col. 5, line 66 - col. 6, line 22; figures 1-3.

5.2 It is remarked that the application device of D5 is evidently suitable for applying a tread as a strip-shaped tire component.

Therefore, claim 18 is not new in the sense of Article 33(2) PCT.

5.3 It is remarked that also documents **D6** and **D7** destroy the novelty of claim **18**.

6. Independent claim 36 - Lack of novelty

6.1 The document **D6** discloses (the references in parentheses applying to this document):

"a method for applying a tread (11) on a building drum (12) for a tyre, wherein: the position of each segment of the tread on a tread conveying device (10) is measured, after which the tread conveying device conveys the tread to the building drum and applies it on the building drum, wherein during application of the tread on the building drum the position of a segment of the tread that is applied on the building drum is repeatedly adjusted to a pre-set value prior to it being applied on the building drum by laterally displacing the tread conveying device with respect to the building drum".

See page 3, line 25 - page 4, line 19 and figures 1A, 1B, 3.

Therefore, claim **36** is not new in the sense of Article 33(2) PCT.

6.2 It is remarked that also document **D7** destroys the novelty of claim **36**.

7. Dependent claims 19-35 and 37-39 - Lack of novelty and / or inventive step

7.1 The features of the dependent claims **19** to **35** and **37** to **39** appear to be either disclosed or suggested in the available prior art or are simply considered as trivial design options, known in many conveying apparatuses, which a skilled person would apply without any inventive activity.

These claims therefore do not seem to comply with the requirements of Article 33 (2) and (3) PCT.